

FORM PTO-1449 (Fill-in-A-Form 7.92) INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)									Attorney's Docket Number 5820.640	Serial Number Not Yet Assigned
									Applicant Daniel E. Resasco, et al.	
									Filing Date Herewith	Group Unknown

U. S. PATENT DOCUMENTS

EXAM INIT.		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/SH/	AA	3	7	4	6	6	5	7	07/17/1973	Miller et al.	252	437	
	AB	4	4	5	6	6	9	4	06/26/1984	Blaskie et al.	502	74	
	AC	4	5	7	4	1	2	0	03/04/1986	Thompson	502	220	
	AD	4	6	6	3	2	3	0	05/05/1987	Tennent	428	367	
	AE	5	1	6	5	9	0	9	11/24/1992	Tennent et al.	423	447	
	AF	5	2	2	7	0	3	8	07/13/1993	Smalley et al.	204	173	
	AG	5	3	0	0	2	0	3	04/05/1994	Smalley	204	157	
	AH	5	4	0	5	9	9	6	04/11/1995	Suzuki et al.	562	548	
	AI	5	4	8	2	6	0	1	01/09/1996	Ohshima et al.	204	173	
	AJ	5	5	4	3	3	7	8	08/06/1996	Wang	502	174	
	AK	5	5	5	6	5	1	7	09/17/1996	Smalley	204	157	
	AL	5	5	6	0	8	9	8	10/01/1996	Uchida et al.	423	461	
	AM	5	5	7	8	5	4	3	11/26/1996	Tennent et al.	502	180	
	AN	5	5	0	7	1	4	1	12/24/1996	Ohshima et al.	423	461	
	AO	5	5	9	1	3	1	2	01/07/1997	Smalley	204	157	
	AP	5	6	0	3	9	0	7	02/18/1997	Grochowski	423	210	
	AQ	5	6	4	8	0	5	6	07/15/1997	Tanaka	423	445	
	AR	5	6	4	1	4	6	6	06/24/1997	Ebbesen et al.	423	447	
	AS	5	6	9	5	7	3	4	12/09/1997	Ikazaki et al.	423	461	
	AT	5	6	9	8	1	7	5	12/16/1997	Hiura et al.	423	447	
	AU	5	7	0	7	9	1	6	01/13/1998	Snyder et al.	502	416	
	AV	5	7	4	4	2	3	5	04/28/1998	Creehan	428	364	
	AW	5	7	5	3	0	8	8	05/19/1998	Olk	204	173	
	AX	5	7	7	3	8	3	4	06/30/1998	Yammamoto et al.	204	192	
▼	AY	5	7	8	0	1	0	1	07/14/1998	Nolan et al.	427	216	
/SH	AZ	5	8	1	4	2	9	0	09/29/1998	Niu et al.	423	344	

U. S. PATENT DOCUMENTS

EXAM INIT.		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/SH/	AZA	5	8	7	7	1	1	0	03/02/1999	Snyder et al.	502	180	
/SH/	AZB	5	9	6	5	2	6	7	10/12/1999	Nolan et al.	428	408	
/SH/	AZC	5	9	8	5	2	3	2	11/16/1999	Howard et al.	423	447	
/SH/	AZD	5	9	9	7	8	2	3	12/07/1999	Lieber et al.	423	249	

FOREIGN PATENT DOCUMENTS

EXAM INIT.		Office	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
								YES	NO
/SH/	BA	PCT/US00/15362			International Search Report				
	BB	PCT/US02/23155		07/21/2003	International Search Report				
	BC	WO 00/73205		12/07/2000	PCT/US				
	BD	WO 97/09272		03/13/1997	PCT/US				X
	BE	WO 98/392550		09/11/1998	PCT/US				X
	BF	WO 98/42620		10/01/1998	PCT/JP				X
	BG	406122489		05/1994	Japan				X
▼	BH	WO 00/17102		03/30/2000	PCT International Publication				

NON PATENT DOCUMENTS

Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published

/SH/	CA	Alvarez et al., "Synergism of Co and Mo in the atalytic production of single-wall carbon nanotubes by decomposition of CO", Elsevier Science Ltd., Carbon 39 (2001), pp. 547-558.
/SH/	CB	Bandow et al., "Effect of the Growth Temperature on the Diameter Distribution and Chirality of Single-Wall Carbon Nanotubes", The American Physical Society, Physical Review Letters, Vol. 80, No. 17, (1998), pp. 3779-3782.
/SH/	CC	Bethune et al., "Cobalt-Catalysed Growth of Carbon Nanotubes with Single-Atomic-Layer Walls," Nature, 363:605-607, Jun 1993.
/SH/	CD	V. Brotos et al., "Catalytic influence of bimetallic phases for the synthesis of single-walled carbon nanotubes", JOURNAL OF MOLECULAR CATALYSIS, A: Chemical 116 (1997) 397-403.

EXAM INIT.		NON PATENT DOCUMENTS
		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
/SH/	CE	Cassell et al., "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes", AMERICAN CHEMICAL SOCIETY, pp. 6483-6492, 1999.
	CF	Chaturvedi et al., "Properties of pure and sulfided NiMo04 and CoMo04 catalysts: TPR, XANES and time-resolved XRD studies", Database Accession No. EIX99044490981 XP002246342, Proceedings of the 1997 Mrs Fall Symposium, Boston, MA, USA, December 2-4, 1997; Mater Res Soc Symp Proc, Materials Research Society Symposium-Proceedings, Recent Advances in Catalytic Materials, 1998, Mrs. Warrendale, PA, USA.
	CG	Che et al., "Chemical Vapor Deposition Based Synthesis of Carbon Nanotubes and Nanofibers Using a Template Method", CHEMICAL MATER. 1998, 10, PP. 260-267.
	CH	Chen et al., "Growth of carbon nanotubes by catalytic decompositon of CH4 or CO on a Ni-MgO catalyst", CARBON VOL. 35, No. 10-11, pp. 1495-1501, 1997.
	CI	Cheng et al.; "Bulk Morphology and Diameter Distribution of Single-Walled Carbon Nanotubes Synthesized by Catalytic Decomposition of Hydrocarbons," Chemical Physics Letters, 289:602-610, 1998.
	CJ	Cheng et al.; "Large-Scale and Low-Cost Synthesis of Single-Walled Carbon Nanotubes by the Catalytic Pyrolysis of Hydrocarbons," Applied Physics Letters, 72(25):3282-3284, 06/25/98.
	CK	Dai et al.; "Single-Wall Nanotubes Produced By Metal-Catalyzed Disproportionation of Carbon Monoxide," Chemical Physics Letters, 260:471-475, 1996.
	CL	Database, Accession No. 1999-366878, Cano, "Canno KK", XP-002149235, 05/25/1999.
	CM	De Boer et al., "The cobalt-molybdenum interaction in CoMo/SiO2 catalysts: A CO-oxidation study", Elsevier Science Ltd., Solid State Ionics 63-65 (1993), pp. 736-742.
	CN	Fonseca et al., "Synthesis of single-and multi-wall carbon nanotubes over supported catalysts", APPLIED PHYSICS A, 67, PP. 11-22, 1998.
	CO	Govindaraj et al., "Carbon structures obtained by the disproportionation of carbon monoxide over nickel catalysts", MATERIALS RESEARCH BULLETIN, Vol. 33, No. 4, pp. 663-667, 1998.
	CP	Hafner et al., "Catalytic growth of single-wall carbon nanotubes from metal particles", CHEMICAL PHYSICS LETTERS, 296, PP 195-202, 1998.
▼	CQ	Hernadi et al., "Catalytic synthesis of carbon nanotubes using zeolite support", ELSEVIER SCIENCE INC. 1996.

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		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
/SH/	CR	HYPERION CATALYSIS INTERNATIONAL Website; http://www.fibrils.com/esd.htm ; "Unique Slough Resistant SR™ Series ESD Thermoplastic Product Line Offers Reduced Particle Contamination For Demanding Electronic Applications," and Hyperion Homepage http://www.fibrils.com . <i>11/11/01</i>
	CS	Iijima, Sumio; "Helical Microtubules of Graphitic Carbon," Nature, 354:56-58, Nov 1991.
	DA	Iijima et al.; "Single-Shell Carbon Nanotubes of 1-nm Diameter", Nature 363:603-605, Jun 1993.
	DB	Ivanov et al.; "The Study of Carbon Nanotubes Produced by Catalytic Method," Chemical Physics Letters 223:329-335, 1994.
	DC	Journet et al.; "Large-Scale Production of Single-Walled Carbon Nanotubes by the Electric-Arc Technique," Nature, 338:756-758, Aug 1997.
	DD	B. Kitiyanan et al., "Controlled production of single-wall carbon nanotubes by catalytic decomposition of CO on bimetallic Co-Mo catalysts", CHEMICAL PHYSICS LETTERS, 317 (2000), pp. 497-503, 2/4/2000.
	DE	Krishnankutty et al.; "The Effect of Copper on the Structural Characteristics of Carbon Filaments Produced from Iron Catalyzed Decomposition of Ethylene," Catalysts Today, 37:295-307, 1997.
	DF	Li et al., "Large-Scale Synthesis of Aligned Carbon Nanotubes", SCIENCE, Vol. 274, pp. 1701-1703. <i>11/11/01</i>
	DG	Rinzler et al.; "Large-Scale Purification of Single-Wall Carbon Nanotubes: Process, Product, and Characterization," Applied Physics A, 67:29-37, 1998.
	DH	Thess et al., "Crystalline Ropes of Metallic Carbon Nanotubes, SCIENCE, Vol. 273, pp. 483-487. <i>9/26/01</i>
	DI	I. Willems et al., "Control of the outer diameter of thin carbon nanotubes synthesized by catalytic decomposition of hydrocarbons", CHEMICAL PHYSICS LETTERS, 317 (2000) pp. 71-76.
▼	DJ	Yakobson et al.; "Fullerene Nanotubes: C _{1,000,000} and Beyond," American Scientist, 85:324-337, Jul-Aug 1997.
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STATEMENT BY APPLICANT**

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Complete If Known	
Application Number	10/689,258
Filing Date	10/20/2003
First Named Inventor	Daniel E. Resasco et al.
Group Art Unit	1754
Examiner Name	S. Hendrickson
Attorney Docket Number	5820.640

U. S. PATENT DOCUMENTS

EXAM INIT.	Cite No. 1	U.S. PATENT NUMBER Number	Kind Code ² (If known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/SH/		5424054		Bethune	06/13/1995	
		5456897		Moy et al.	10/10/1995	
		5500200		Mandeville et al.	03/19/1996	
		5747161		Iijima	05/05/1998	
		6099965		Tennent et al.	08/08/2000	
		6221330		Moy et al.	04/24/2001	
		6312303		Yaniv et al.	11/06/2001	
		6401526		Dai et al.	06/11/2002	
		6413487		Resasco et al.	07/02/2002	
		6426134		Lavin et al.	07/30/2002	
		6432866		Tennent et al.	08/13/2002	
		6479939		Yaniv et al.	11/12/2002	
		6573643		Kumar et al.	06/03/2003	
		6580225		Yaniv et al.	06/17/2003	
		6596187		Coll et al.	07/22/2003	
		6599961		Pienkowski et al.	07/29/2003	
		6664722		Yaniv et al.	12/16/2003	
✓		6656339		Talin et al.	12/02/2003	

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/SH/		6683783		Smalley et al.	01/27/2004	
		6699457		Cortright et al.	03/02/2004	
		6752977		Smalley et al.	06/22/2004	
		6761870		Smalley et al.	07/13/2004	
		6936233		Smalley et al.	08/30/2005	
		6939525		Colbert et al.	09/06/2005	
		60/101093		Smalley et al.	09/18/1998	
		60/106917		Smalley et al.	11/03/1998	
		60/114588		Smalley et al.	12/31/1998	
		60/117287		Smalley et al.	01/26/1999	
		60/161728		Smalley et al.	10/27/1999	
		2002/0084410		Colbert et al.	07/04/2002	
		2002/0094311		Smalley et al.	07/18/2002	
		2002/0096634		Colbert et al.	07/25/2002	
		US2002/0127171A1		Smalley et al.	09/12/2002	
		2002/0159944		Smalley et al.	10/31/2002	
		US2003/0077515A1		Chen et al.	04/24/2003	
		US2003/0089893A1		Niu et al.	05/15/2003	
		US2003/0147802A1		Smalley et al.	08/07/2003	
		US2003/0175200A1		Smalley et al.	09/18/2003	
		US2003/0180526A1		Winey et al.	09/25/2003	
		US2004/0009346A1		Jang et al.	01/15/2004	
▼		US2004/0028859A1		LeGrande et al.	02/12/2004	

FOREIGN PATENT DOCUMENTS

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		Office 3	Number 4	Kind Code ⁵ (If known)				
/SH/			PCT/US03/19664		International Search Report	03/31/2004		
			WO 00/26138		PCT/US	05/11/2000		
			WO 02/060813A2		PCT/US	08/08/2002		
			WO 03/048038		PCT/US	06/12/2003		
			WO 04/001107		PCT/US	12/31/2003		
			EP 01 93 9821		European Search Report	06/09/2004		
			EP 0 945 402 A1		SHIMADZU CORP; Res. Inst. Innovative Tech. Earch	09/29/1999		
			JP 06/228824		Japanese Patent			X
▼			JP 11/139815		Japanese Patent	05/25/1999		X

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/SH/		ANDERSON et al., "50 nm Polystyrene Particles via Miniemulsion Polymerization", Macromolecules, American Chemical Society, vol. 35, pp. 574-576, 2002.						
/SH/		BANDOW ET AL., "Purification of Single-Wall Carbon Nanotubes by Microfiltration," J.Phys.Chem.B, Vol. 101, (1997) pp 8839-8842.						
/SH/		BOWER et al., "Deformation of Carbon Nanotubes in Nanotube-Polymer Composites", Applied Physics Letters, vol. 74, no. 22, pp. 3317-3319, 05/31/1999.						
/SH/		CADEK et al., "Mechanical and Thermal Properties of CNT and CNF Reinforced Polymer Composites", Structural and Electronic Properties of Molecular Nanostructures, American Institute of Physics, pp. 562-565, 2002.						

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		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
/SH/		CHATTOPADHYAY, et al., "A Route for Bulk Separation of Semiconducting from Metallic Singel-Wall Carbon Nanotubes", Journal of American Chemical Society, Vol. 125, No. 11, pp. 3370-3375, 2003.
		CHEN et al., "Bulk Separative Enrichment in Metallic or Semiconducting Single-Walled Carbon Nanotubes", Nano Letters, xxxx Vol. 0, No. 0, page est: 4.9 A-E. <i>VN 3 R9 1.1245-1249 4/2003</i>
		CHEN et al., "Dissolution of Full-Length Single-Walled Carbon Nanotubes", J. Phys. Chem. B, vol. 105, pp. 2525-2528, 2001.
		DENG et al., "Hybrid Composite of Polyaniline Containing Carbon Nanotube", Chinese Chemical Letters, vol. 12, pp. 1037-1040, 2001.
		FRANCO et al., "Electric and magnetic properties of polymer electrolyte/carbon black composites", Solid State Ionics 113-115, pp. 149-160, 1998.
		GASPAR et al., "The influence of Cr precursors in the ethylene polymerization on Cr/SiO _x catalysts", Applied Catalysis A: General, vol. 227, pp. 240-254, 2002.
		GONG et al., "Surfactant-Assisted Processing of Carbon Nanotube/Polymer Composites", Chemical Material, vol. 12, pp. 1049-1052, 2000.
		HAMON et al., "End-group and defect analysis of soluble single-walled carbon nanotubes", Chemical Physics Letters, vol. 347 pp. 8-12, 2001.
		HWANG et al., "Carbon nanotube reinforced ceramics", Journal of Materials Chemistry, vol. 11, pp. 1722-1725, 2001.
		JIN et al., "Alignment of Carbon nanotubes in a polymer matrix by mechanical stretching", Applied Physics Letters, vol. 73, no. 9, pp. 1197-1199, 08/31/1998.
		LANDFESTER et al., "Miniemulsion polymerization", 6/4/2003, http://www.mpikg-golm.mpg.de/kc/landfester/ , 1-22
		LANDFESTER, "Polyreactions in Miniemulsions", Macromol. Rapid Commun., vol. 22, no. 12, pp. 896-936, 2001.
		LANDFESTER, "The Generation of Nanoparticles in Miniemulsions", Advanced Materials, vol. 13, no. 10, pp. 765-768, 05/17/2001.
↓		McCARTHY et al., "A Microscopic and Spectroscopic Study of Interactions between Carbon Nanotubes and a Conjugated Polymer", J. Phys. Chem. B, vol. 106, pp. 2210-2216, 2001.

EXAM INIT.		<h3 style="text-align: center;">PATENT DOCUMENTS</h3> <p>Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published</p>
/SH/		NIYOGI et al., Communications to the Editor, "Chromatographic Purification of Soluble Single-walled Carbon Nanotubes (s-SWNTs)", J. Am. Chem. Soc., vol. 123, pp. 733-734, 2001.
		Patent Abstracts of Japan, Vol. 1996, no. 12, December 26, 1996, and JP 0 8 198611 A (NEC CORP), Aug. 6, 1996, Abstract.
		POMPEO et al., "Water Solubilization of Single-Walled Carbon Nanotubes by Functionalization with Glucosamine", Nano Letters, American Chemical Society, vol. 2, no. 4, pp. 369-373, 2002.
		QIAN et al., "Load transfer and deformation mechanisms in carbon nanotube-polystyrene composites", Applied Physics Letters, American Institute of Physics, vol. 76, no. 20, pp. 2868-2870, 05/15/2000.
		RAZAVI, "Metallocene catalysts technology and environment", Chemistry 3, pp. 615-625, 2000.
		SEARS et al., "Raman scattering from polymerizing styrene. I. Vibrational mode analysis ^a)", J. Chem. Phys., vol. 75, no. 4, pp. 1589-1598. ^{8/15/01}
		SHAFFER et al., "Fabrication and Characterization of Carbon Nanotube/Poly (vinyl alcohol) Composites**", Advanced Materials, vol. II, No. 11, pp. 937-941, 1999.
		TAHJI et al., "Purification Procedure for Single-Wall Nanotubes", J. Phys. Chem. B, Vol. 101, pp. 1974-1978 (1997).
		TIARKS et al., "Encapsulation of Carbon Black by Miniemulsion Polymerization", Macromol. Chem. Phys., vol. 202, pp. 51-60, 2001.
		TIARKS et al., "Silica Nanoparticles as Surfactants and Fillers for Latexes Made by Miniemulsion Polymerization", Langmuir, American Chemical Society, vol. 17, pp. 5775-5780, 2001.
		ZHAO, et al., "Chromatographic Purification and Properties of Soluble Single-Walled Carbon Nanotubes", American Chemical Society, Page Est: 4.1, pp. A-E, 02/22/2001.
/SH/		ZHU et al., "Direct Synthesis of Long Single-Walled Carbon Nanotube Strands", Science, vol. 296, pp. 884-886, 05/13/2002.
<p>Non Patent Documents: ¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.</p>		
Examiner Signature: <u>/Stuart Hendrickson/ (02/19/2008)</u>		Date Considered:
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